



**U.S. Department of Energy
Categorical Exclusion Determination Form**

Proposed Action Title: Wilson Landslide Stabilization Project, Lawrence Berkeley National Laboratory LB-CX-13-03

Program or Field Office: Berkeley Site Office

Location(s) (City/County/State): Berkeley, California

Proposed Action Description:

The U.S. Department of Energy (DOE) proposes to design and implement stabilization measures to address an active landslide at the main Lawrence Berkeley National Laboratory (LBNL or Laboratory) site. The slide, known as the "Wilson Landslide," resulted from heavy rainfall during December 2012 that saturated the steep hillside northeast (uphill) of McMillan Road and southwest (downhill) of the neighboring Lawrence Hall of Science museum. Since that time, an area of approximately one acre has slipped several feet. This same area threatens to fail completely, which could result in a mass of earth sliding downhill into McMillan Road, parking areas, and Building 46. As a result, McMillan Road has been barricaded from use and Building 46 was evacuated.

Based on the draft *Geotechnical Investigation Report, Wilson Landslide* (February 18, 2013), the proposed engineering solutions to stabilize the Wilson Landslide would be to drill piers into the earth at the slide area, remove and re-grade a portion of the slide, or enact some combination of the two. Either solution would also include removing a bulge of earth that is precarious and not fixable, installing additional surface and subsurface drains, and replanting the hillside with additional foliage and trees to combat future erosion. Work is expected to commence around May 2013 and to continue for approximately five months. Implementation of the project would entail removal of two mature oak trees and one pine tree and widening of existing access benches and paths from McMillan Road, below, and possibly from the Lawrence Hall of Science, above. Work would take place during normal business hours and would follow all applicable "standard project features" intended to avoid or minimize potential environmental effects from LBNL activities.

If piers are used, they would be aligned in a single or double-row. They would be drilled into the earth and poured with concrete at sufficient depth so as to "pin" the slide against the hillside and provide adequate sheer strength. Size and number of piers would be determined after further design and engineering is completed. Piers would be drilled and poured from mobile rigs and vehicles with work crews of approximately 15-20 people.

Any soil removal actions would remove unstable material down to "competent" underlying soil; such areas would then be re-graded as an engineered fill. Some soil from the slide area would be used for the engineered fill and any required re-grading. The portion of earth to be removed would be excavated, tested for cleanliness, and trucked off of the Lab site to be used as fill at an approved landfill or similar receiving site. Due to the location of the slide area, the soil is expected to be found "clean" and uncontaminated, but nevertheless a testing protocol would be undertaken under supervision of the Laboratory's Environment, Health, Safety, and Security Division. It is currently anticipated that approximately 10,000 cubic yards of soil would be removed, which would result in approximately 850 two-way truck trips. As with all construction trucks at the LBNL site, trucks shipping soil would be managed under the LBNL construction truck trip coordinator and would follow established truck trip protocols. A Drilling Waste and Soil Management Plan would be prepared for the project that describes the requirements for safe handling of both materials. If required by the disposal site, sampling would be performed to verify the materials meet the acceptance criteria for each site.

Drainages to be installed would include surface swales and shallow concrete-lined "v-ditches" of the type that already exist on the hillside. They are not visible from off-site locations. Subsurface drainages would include perforated lines similar to French drains that would draw water out of the affected area and into downhill areas or storm drains. After all

other work is completed, the site would be revegetated through a combination of hydroseeding of native and/or drought tolerant grasses and shrubs. In addition, it is anticipated that a number of native trees would be planted to help combat erosion. After re-grading and replanting, the site would revert to its visual character of being an undeveloped, natural hillside.

Description of Affected Environment:

The Wilson Landslide site is characterized by steep, southwest facing slopes and is populated with grasslands and a scattering of oak, pine, and eucalyptus trees. The area is generally undeveloped but traversed by concrete drainage swales and fencing, some pathways, and some wells and metering devices. It is designated as "Perimeter Open Space" in the LBNL 2006 Long Range Development Plan and so is not envisioned for major development. It is considered to be "moderate potential" habitat for the Alameda whipsnake (designated as "threatened" under federal and state listings). The few trees on the site can harbor nesting birds and brooding bats during the spring/summer months. (Standard Project Features of all LBNL projects – including this proposed action – address and provide avoidance protocols for the possible presence of Alameda whipsnake, protected birds and bats, and other special status species). The site is not part of a key screening tree zone. There are no sensitive noise receptors in the immediate vicinity of the project site; some residential neighborhoods exist in the Berkeley hills above the project site, but these are mostly buffered by intervening terrain and distance.

Purpose and Need:

This action is proposed to stabilize the Wilson Landslide and prevent further earthen slippage; in particular, it is intended to prevent any major sliding that could cause injury to persons or property damage to LBNL areas below the slide.

Categorical Exclusion(s) Applied:

- B1.3 - Routine maintenance (Subsections H, K, and P)
- B1.13 - Pathways, short access roads, and rail lines
- B3.1 - Site characterization and environmental monitoring

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of 10 CFR Part 1021.

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D.

To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

The proposal has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

I concur that the above description accurately describes the proposed action.

LBNL Environmental Planner: _____ /s/ _____ Date Determined: 2/28/13

I concur that the above description accurately describes the proposed action.

BSO Project Manager: _____ /s/ _____ Date Determined: 2/28/13

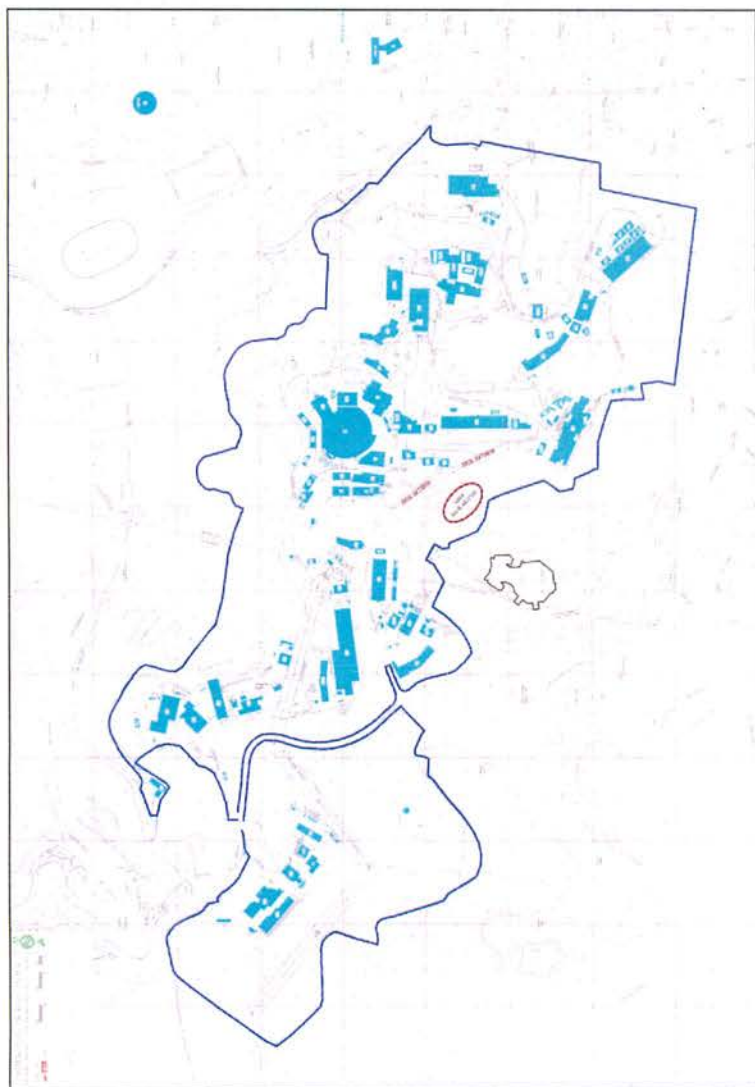
The above description accurately describes the proposed action, which reflects the requirements of the CX cited above. Therefore, I recommend that the proposed action be categorically excluded from further NEPA review and documentation.

BSO NEPA Program Manager: _____ /s/ _____ Date Determined: 2/27/2013

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1 B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: _____ /s/ _____ Date Determined: 3/1/2013

Figure 1: LBNL Main Hill Site with Wilson Landslide Area



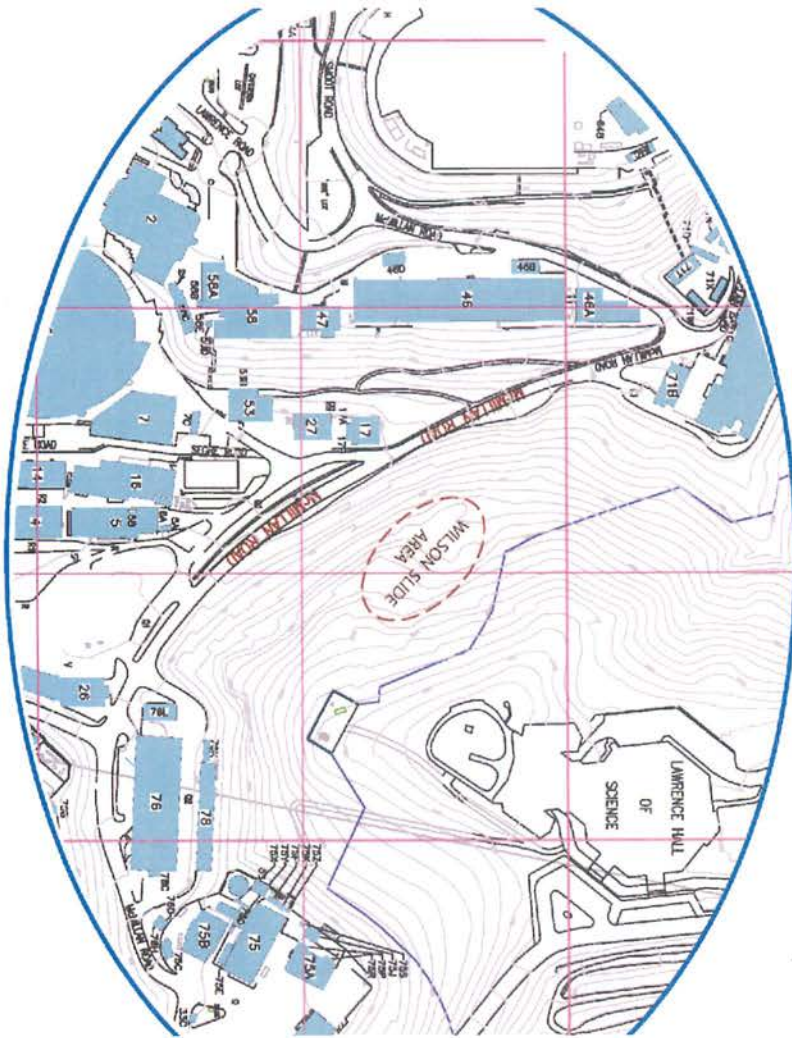


Figure 3: Photographs, Above Slide, looking west (downhill)

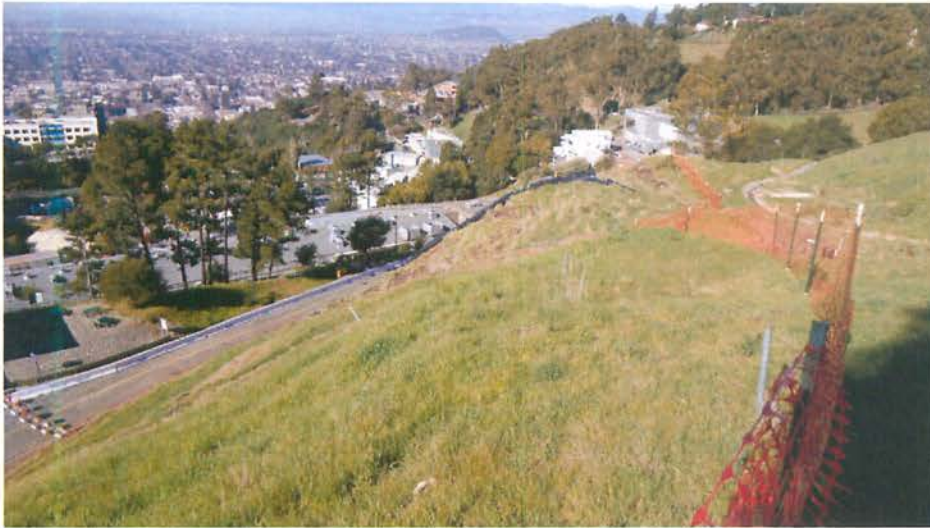


Figure 4: Photograph, Slide, looking west with labels



Figure 5: On Slide, looking north (uphill)

